

### **REMARKS**

Reconsideration of the present application, as amended, is respectfully requested. Claims 25-29, 31-32, 36-41, 43-46, and 51-54 are under prosecution. No claims are amended.

### **AMENDMENTS TO THE SPECIFICATION**

The specification is amended to insert a cross-reference to related applications, at page 1, above line 5, in conformity with 37 CFR C.F.R. § 1.78. This cross-reference is urged to be timely provided, because the instant claim to benefit of priority was properly made in the Declaration and Power of Attorney mailed on August 3, 2005, and in the original application Transmittal Letter received by the Patent Office on November 26, 2004. The benefit of priority is also acknowledged by the Filing Receipt, dated February 2, 2006.

The specification is amended to insert a "Brief Description of the Drawings," in conformity with 37 C.F.R. § 1.74. Support is provided, e.g., by Figures 1-3, and by the specification. For example, the brief description of Figure 1 is supported by Figure 1, Example 1 and the pertinent part of Table 1, as found on page 27. The brief description of Figure 2 is supported, e.g., by Figure 2, Example 2 and the pertinent part of Table 1. The brief description of Figure 3 is supported by Figure 3, Example 3 and the pertinent part of Table 1.

The specification is amended at page 17, line 30 to correct an obvious informality in the chemical formula for  $\text{H}_2\text{PtCl}_6$ . The amendment is made in conformity with the chemical formula found, for example, on page 11, line 33 of the specification.

No new matter is added.

### **THE EXAMINER'S ANALYSIS OF THE DECLARATION OF MR. FRANK BAUER**

The Examiner has rejected the fact-based Declaration of Mr. Frank Bauer under 37 C.F.R. § 1.132 (the Bauer Declaration) as unpersuasive. In the interest of economy of prosecution, Applicants will respond to the specific grounds of rejection, in the order presented by the Office Action, and only point to those specific parts of the Declaration for which rebuttal of the Examiner's position will advance prosecution. This is done without prejudice to any future rebuttal of those parts of the Examiner's analysis of the Declaration that may be warranted by further prosecution of the subject matter of the pending claims.

**THE CLAIMS ARE ENABLED  
UNDER 35 U.S.C. § 112, FIRST PARAGRAPH**

At pages 5-7 of the Office Action, the Examiner has rejected claims 25 and 31 as allegedly not enabled by the specification, based on the claim element of "wherein the zeolite does not contain any of the one or more transition group 8 metals." If Applicants correctly understand the basis for this rejection, the Examiner has taken the position that the process taught by the specification for preparing the catalyst employed by the claimed invention, will unavoidably result in a group 8 metal in the zeolite component of the catalyst composition. The Examiner argues that the specification provides no explanation as to why the described impregnation method would result in impregnation of a group 8 metal exclusively into the gamma alumina phase, and not into the zeolite. Based on this argument, plus the argument that the Declaration (e.g., ¶19) allegedly admits the existence of prior art bifunctional zeolite catalysts, the Examiner concluded that the invention, as presently claimed, is not enabled by the instant patent application.

Applicants respectfully disagree. Claims 25 and 31 require that the employed catalyst include one or more metals of transition group 8 of the periodic table, a gamma aluminum oxide, as set forth by the claims, and a *proviso* that "the zeolite does not contain any of the one or more transition group 8 metals."

Aluminum oxide or alumina has the chemical formula of  $Al_2O_3$ , but it is known to exist in a range of different types of transition structures that are stable at room temperature, and that result from different starting materials and processing conditions. These different transition structures include gamma, delta, theta, eta, kappa, beta, chi and alpha alumina. As noted above, the pending claims require that the alumina be gamma alumina. This background information is provided by the doctoral thesis of Gianluca PAGLIA, 2004, published online in electronic form by Curtin University. The full document is found at the following URL:

[http://espace.library.curtin.edu.au:80/R?func=dbin-jump-full&local\\_base=gen01-era02&object\\_id=14992](http://espace.library.curtin.edu.au:80/R?func=dbin-jump-full&local_base=gen01-era02&object_id=14992)

For the convenience of the Examiner, a partial copy of this publication is attached herewith as Exhibit 1.

The Examiner's attention is respectfully directed to page 7 (Chapter 1) of the Paglia publication. On page 7, lines 12-16 (marked by left and right flanking vertical lines), it is explained that:

Porosity is the property which makes  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> appealing as a catalyst support. Also porosity (and therefore high surface area), combined with the removal of water and/or hydroxyl ligands at the surface, resulting in the exposure of Al<sup>3+</sup>, are why  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> is also used directly as a catalyst.

The application explains that, after the preparation of the support from zeolite and aluminium oxide (Example 1, beginning at page 17), impregnation takes place with H<sub>2</sub>PtCl<sub>6</sub>. This in form of a solution that is the precursor for the platinum. In the solution, the H<sub>2</sub>PtCl<sub>6</sub>-ions are negatively charged. Therefore, they will fix themselves only on available positive points of the catalyst support Zeolites as is known, ion exchangers for positive charged ions (cations). This means they have negative charged centers on their surface. Thus, given the process as described by the application, and given the availability of open gamma alumina positive charges, it is submitted that the H<sub>2</sub>PtCl<sub>6</sub>-ions will inherently bind to or fill the gamma alumina and not the zeolite.

The Paglia publication is from after the earliest priority date of the instant patent application. However, it is urged that the Paglia publication merely confirms that which was already inherently disclosed by the instant patent application, in that the gamma alumina contains the group 8 metal. Therefore, no further proof should be required.

The Examiner also stated that the provided Bauer Declaration allegedly admitted that prior art bifunctional zeolite catalysts are known. However, it is submitted that, as far as Applicants are aware, none of the cited references specifically teach or suggest employing gamma alumina. If the Examiner is aware of such a citation of gamma alumina in the references of record, he is respectfully requested to point this out to Applicants.

For all of these reasons, reconsideration and withdrawal of this ground of rejection is respectfully requested.

**THE CLAIMS ARE NOVEL AND NONOBVIOUS  
OVER HOEK, AND HOEK IN VIEW OF EILERS AND/OR BERTAUX**

At items 14-26 of the Office Action, the Examiner has maintained the previously made rejections of claims 25-29, 31-32, 36-41, 43-46 and 51-54 as allegedly unpatentable under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly

obvious over Hoek (US 2004/0199040) as evidence by Eilers (EP 668342 A1) and/or Bertaux (EP 776959 A2). The Examiner also applies this rejection to specific dependent claims in items 16-26 of the Office Action. In particular, the Examiner states, at the end of item 15 (page 10) of the Office Action, that

[f]inally, with respect to the newly added limitation 'wherein the zeolite does not contain any of the one or more transition group 8 metals,' there is lack of enablement for such limitation in Applicant's specification (see discussion *supra* at paragraph 10).

Applicants respectfully disagree. Anticipation requires the presence in a single prior art disclosure of each and every element of a claimed invention. *Electro Med. Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1052 (Fed. Cir. 1994) or see the Manual of Patent Examining Procedure (MPEP) §2131. However, this is not enough to sustain a *prima facie* anticipation rejection. More is required. As explained by the Federal Circuit, "[a]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. [*Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick & Co.*, 221 USPQ 481, 730 F.2d 1452, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)]. See also, *Akzo N.V. v. United States Int'l Trade Comm'n*, 808 F.2d 1471, 1479, 1 USPQ2d 1241, 1245 (Fed.Cir.1986), cert. denied, 482 U.S. 909, 107 S.Ct. 2490, 96 L.Ed.2d 382 (1987) which explained that,

Under 35 U.S.C. Sec. 102, anticipation requires that each and every element of the claimed invention be disclosed in a prior art reference. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed.Cir.1983), cert. denied, 469 U.S. 851, 105 S.Ct. 172, 83 L.Ed.2d 107 (1984). In addition, the prior art reference must be enabling, thus placing the allegedly disclosed matter in the possession of the public. In re Brown, 329 F.2d 1006, 1011, 141 USPQ 245, 249 (CCPA 1964). (Underline added for emphasis).

Thus, in order to maintain a *prima facie* allegation that a claim is anticipated by a reference, it is clear that a single reference must describe the invention as claimed, and also enable the invention as claimed. A mere listing of parts or elements, not teaching the invention as actually claimed, is submitted to fail to anticipate, even if some of the elements of the reference might resemble or even be the same as the elements of the claimed invention.

Applicants have provided evidence, in the form of a publication, detailing a technical reason why the required catalyst composition will have a group 8 metal, e.g., platinum,

exclusively in the gamma alumina, and not in the zeolite (based on the respective charge structure of zeolite and gamma aluminum oxide as discussed *supra*). It is submitted that this evidence supports withdrawal of the above-discussed rejection under 35 U.S.C. § 112, first paragraph. With the withdrawal of the enablement rejection, it is submitted that the Examiner must give patentable weight to the requirement of this limitation of the claims, and to the expert opinion of the Bauer Declaration on this very point.

Thus, Applicants reiterate the traversal previously provided, with an emphasis on the nature of the catalyst. The product of claim 25 is prepared by a specific process. The process of claim 31 is a specific set of steps, as follows:

processing FT (Fischer-Tropsch) paraffins, as a starting material, having carbon atoms in the range from 20 to 105;  
in the presence of a catalyst based on a  $\beta$ -zeolite;  
wherein the process is conducted at a temperature above 200°C, and  
at a pressure in a range of 2 to 20 MPa in the presence of hydrogen...

The catalyst employed by the process is defined by claims 25 and 31 as follows:

wherein the catalyst comprises 60 to 95% by mass of zeolite of the beta type, based on the combination of all components fired at 800°C, 5 to 39.8 by mass of gamma-aluminum oxide having a specific surface area of 150-350 m<sup>2</sup>/g, calculated as Al<sub>2</sub>O<sub>3</sub> and based on the combination of all components fired at 800°C, and one or more metals of transition group 8 of the periodic table, in an amount of 0.1 to 2.0% by mass, based on the combination of all components fired at 800°C, the one or more **transition group 8 metals being attached to the gamma-aluminum oxide, and wherein the zeolite does not contain any of the one or more transition group 8 metals** (bold added for emphasis).

It is submitted that Hoek fails to disclose the product of claim 25, or the process of claim 31, with each and every one of the elements of each respective claim, organized as required by each claim, and wherein the catalyst is defined to require a gamma aluminum oxide with, "one or more transition group 8 metals being attached to the gamma-aluminum oxide, wherein the zeolite does not contain any of the one or more transition group 8 metals."

Hoek is silent as to gamma aluminum oxide and is silent as to the zeolite not containing one or more transition group 8 metals, thus Hoek cannot anticipate the invention as claimed.

Turning to the rejection over Hoek, in view of Eilers or Bertaux, under 35 U.S.C. § 103(a). In order to make out a *prima facie* rejection of the claims as allegedly obvious, the facts must show that the elements of the rejected claim(s) are present or suggested, e.g., by one or more references. The claimed invention must be viewed as a whole. *See generally* MPEP §§

2141 and 2142. Further, the obviousness rejection cannot be a legally impermissible form of "obvious to try."

Neither Eilers nor Bertaux remedy the deficiencies of Hoek. For example, Eilers discloses a group 8 catalyst with an alumina carrier (e.g., page 5, lines 38-41), but nowhere teaches or suggests a catalyst composition including a group 8 metal, on alumina, combined with a zeolite, wherein the zeolite contains no group 8 metal. Bertaux teaches completely different processes. Bertaux teaches a process for producing, not waxes, but lubricating oils (Col. 2, lines 49-52). Potential catalysts according to Bertaux can include a hydrogenation component on amorphous silica alumina or alumina, etc. or combinations of these (Col. 3, lines 47-50), but fails to teach or suggest any process employing a transition group 8 metal on aluminum oxide in a composition with a zeolite not containing a transition group 8 metal.

It is further submitted that since claims 25 and 31 are novel and/or nonobvious in view of the cited references, all of the claims depending from claims 25 and 31 are novel and/or nonobvious as a matter of law. Nevertheless, Applicants reserve the right to further respond to the rejections of any of the dependent claims, should the rejection of the independent claims be maintained.

For all of these reasons, reconsideration and withdrawal of these grounds of rejection is respectfully requested.

**THE CLAIMS ARE NONOBVIOUS IN VIEW OF  
WITTENBRINK, HOEK AND BERTAUX, OR CARATI**

At items 30-42 of the Office Action, the Examiner has maintained the previously made rejections of claims 25-29, 31-32, 36-41, 43-46 and 51-54 as allegedly obvious under 35 U.S.C. § 103(a) over Wittenbrink (WO01/74969 A2) in view of either (1) Hoek and Bertaux or (2) Carati (U.S. Patent No. 5,981,419). The Examiner concedes that Wittenbrink fails to teach that "the hydroisomerization occurs in the presence of a catalyst comprising  $\beta$ -zeolite and aluminum oxide," but then points to Wittenbrink at page 8 as defining a support as any zeolite or refractory oxide, and to Hoek and Bertaux (beta zeolite or alumina) or Carati for teaching a beta zeolite support. In particular, the Examiner states, at the end of item 31 (page 14) of the Office Action, that

[f]inally, with respect to the newly added limitation 'wherein the zeolite does not contain any of the one or more transition group 8 metals,' there is lack of

enablement for such limitation in Applicant's specification (see discussion *supra* at paragraph 10).

Applicants respectfully disagree. The burden is on the Patent Office to initially provide facts supporting a *prima facie* rejection under 35 U.S.C. § 103(a). As noted above, in order to make out a *prima facie* rejection, the facts must show that the elements of the rejected claim(s) are present or suggested, e.g., by one or more references. It is submitted that Wittenbrink fails to disclose the product of claim 25, or the process of claim 31, with each and every one of the elements of each respective claim, organized as required by each claim, and wherein the catalyst is defined to require, "one or more transition group 8 metals being attached to the gamma-aluminum oxide, wherein the zeolite does not contain any of the one or more transition group 8 metals." (underline added for emphasis).

As noted *supra*, Applicants have provided evidence, in the form of a publication, detailing a technical reason why the required catalyst composition will have a group 8 metal, e.g., platinum, exclusively in the gamma alumina, and not in the zeolite (based on the respective charge structure of zeolite and gamma aluminum oxide as discussed *supra*). It is submitted that this evidence supports withdrawal of the above-discussed rejection under 35 U.S.C. § 112, first paragraph. With the withdrawal of the enablement rejection, it is submitted that the Examiner must give patentable weight to the requirement of this limitation of the claims, and to the expert opinion of the Bauer Declaration on this very point.

Turning to the obviousness rejection, Wittenbrink teaches that a Group VIII noble metal can be supported by, e.g., alumina or zeolite or mixtures thereof (page 8). The Examiner argues (item 31, page 13) that Wittenbrink at page 8 teaches that, "the support for the metal s can be any refractory oxide or zeolite or mixture thereof." However, nowhere does Wittenbrink teach or suggest a specific composition of transition group 8 metals specifically attached to gamma-aluminum oxide, wherein the zeolite does not contain any of the one or more transition group 8 metals.

Neither of the two alternative secondary art combinations remedy this clear deficiency. The deficiencies of Hoek and Bertaux are discussed above. Carati teaches a, "difunctional catalyst constituted by a boro-silicate or a boro-alumino-silicate isostructural with beta-zeolite and one or more metal(s) belonging to Group VIIIA, to its preparation and to its use in the hydroisomerization of long chain n-paraffins having more than 15 carbon atoms." (Col. 1, lines



9-14). Nowhere does Carati teach or suggest a composition of transition group 8 metals attached to gamma-aluminum oxide, wherein the zeolite does not contain any of the one or more transition group 8 metals. Thus, the artisan would not have looked to Carati to remedy the clear deficiencies of Wittenbrink in this regard.

The Examiner has made specific additional rejections of the pending dependent claims. However, if the main claims are nonobvious over the cited art, the claims depending therefrom are also nonobvious, as a matter of law. Nevertheless, Applicants reserve the right to further respond to the rejections of any of the dependent claims, should the rejection of the independent claims be maintained.

For all of these reasons, reconsideration and withdrawal of these rejections is respectfully requested.

### CONCLUSION

In the event there are further issues remaining in any respect the Examiner is respectfully requested to telephone attorney to reach agreement to expedite issuance of this application.

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Since the present claims set forth the present invention patentably and distinctly, and are not taught by the cited art either taken alone or in combination, this amendment is believed to place this case in condition for allowance, and the Examiner is respectfully requested to reconsider the matter, enter this amendment, and to allow all of the claims in this case.

### FEES

This Response is being filed with a Petition for a Three-Month Extension of Time, and the fees required therefor. No new claims are added. No further fee is believed to be due. If, on the other hand, it is determined that further fees are due or any overpayment has been made, the Assistant Commissioner is hereby authorized to debit or credit such sum to Deposit Account No. 02-2275. Pursuant to 37 C.F.R. § 1.136(a)(3), please treat this and any concurrent or future reply in this application that requires a petition for an extension of time for its timely submission as incorporating a petition for extension of time for the appropriate length of time. The fee



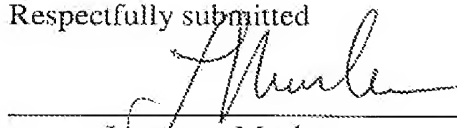
Appl. No. 10/516,672  
Amdt. dated November 15, 2010

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associated therewith is to be charged to Deposit Account No. 02-2275.

Respectfully submitted

By:

  
\_\_\_\_\_  
Laurence Manber  
Registration No. 35,597

LUCAS & MERCANTI, LLP  
475 Park Avenue South  
New York, New York 10016  
Phone: 212-661-8000  
Fax: 212-661-8002

Encl. Exhibit 1